Building an Effective Stormwater Funding Strategy

DRAFT Learning Module:

U.S. EPA Water Infrastructure and Resiliency Finance Center

Course Overview

- Introduction: The Need For Sustainable Funding
- Chapter 1: Prepare for Success: Get Organized and Build Support
- Chapter 2: Establish Your Program Goals, Key Problems, and Program Plan
- Chapter 3: Determine Your Present and Future Program Costs
- Chapter 4: Stormwater Revenue, Funding, and Financing Sources and Strategies
- Chapter 5: Developing and Administering a Dedicated Funding Source
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CHAPTER 4. Stormwater Revenue, Funding and Financing Sources and Strategies

- Subchapter 4.1: The Need for a Portfolio Approach
- Subchapter 4.2: Revenue and Funding Sources
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Chapter 0		
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1	Chapter navigation slide
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		Chapter 4. Stormwater Revenue, Funding and Financing Sources and Strategies
		• Introduction (link to next slide)
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2	Text	**Introduction: Expanding Stormwater Investments through Enhanced Funding and Financing Strategies!** This chapter covers revenue, funding and financing options, as well as considerations and strategies on how to utilize revenue sources to choose one or more financing products to meet your community's goals and needs There are many sources of funding that can be used to pay for stormwater program implementation. While some communities rely on just one source of funding (often general funds), many communities draw from a variety of sources to fund local programs and projects. And many other communities would like to expand their funding sources and strategies in order to develop more reliable, sustainable funding for the future. This chapter discusses many of the currently available sources of funding, and strategies for assembling these sources into a coherent funding "portfolio."

Subchapter 4.1: The Need for a Portfolio Approach		
Slide no.	**Layout notes**	**Content**
3	Subchapter navigation slide Title with each subchapter on separate "right arrow" link	**Chapter 4.1: The Need for a Portfolio Approach** 4.1.1: **Navigating in the Funding and Financing Bazaar** o *Jump to Slide x* 4.1.2: **Diversity is Strength in Funding and Financing** o *Jump to Slide x* 4.1.3: **Benefits of Leveraging Dedicated Revenue Sources** o *Jump to Slide x* 4.1.4: **Tying it All Together: Using Diverse Revenue and Funding Sources and Financing Strategies to Address Capital and O&M Investments** o *Jump to Slide xx* 4.1.5: **Factors Affecting Selection of a Funding/Financing Approach** o *Jump to Slide xx*
4	Text with Images	**4.1.1: Navigating the Funding and Financing Bazaar** Sorting through different funding and financing options can be confusing. Before discussing these many options and the considerations local managers should keep in mind in assessing them, we need to clarify some terms and consider most communities' starting point. *- Terminology (link to 5)* *- Moving Beyond "Pay-As-You-Go" (link to 6)*
5	Text with Images	**Terminology: Define the differences between the terms "funding", "financing" and "revenue"** The financing community uses precise terms with specific connotations and meanings, but those outside of this profession can misunderstand or misuse this language. Key terms relevant to stormwater include: • Funding – The means or methods used to pay for stormwater services (bond or loan proceeds, etc.) • Financing - Debt, or borrowing in anticipation of future revenue – finance always involves some form of repayment • Revenue – The future source of repayment for financing vehicles (fees, rates, etc.) • Sub-market interest rate – This is an interest rate associated with a financial product that is lower than the presiding rate available to a community through municipal bonds.
6	Text with links to italicized text (which links to detailed information under each italicized section	**Moving Beyond "Pay-As-You-Go"** *Pay-as-you-go compared to long term financing* Stormwater programs can use revenues available within a given year to fund investments, which is referred to as "Pay-as-You-Go" (Pay-Go) funding, or a program can use a longer-term financing in their approach for investing in stormwater infrastructure. Pay-Go is more of a short-term approach that is based upon the premise of implementing programs and projects in a year-to-year basis. A recent study from 2016 highlighted that 88% of surveyed municipalities pay for their

		stormwater programs using Pay-Go with the remaining 11% using financing to pay for a majority of the program cost needs (Black & Veatch, 2016). *The Benefits of a Combined Funding/Financing Approach* Relying on Pay-Go limits investments in a program to revenues collected or funds available within a single year and promotes short-term planning. Financing, to contrast, allows for the payment of infrastructure to be spread out over the lifetime of the infrastructure and it enables for larger-scale investments. Using a combination of regular funding mechanisms (e.g., dedicated stormwater fees) and financing (e.g. bond or loan funding) enhances the ability of communities to obtain sufficient, sustainable funding over time to pay for short and long-term program needs.
7	Text with Images	**4.1.2: Diversity is Strength in Funding and Financing** Most communities fund their stormwater programs through general funds or other non-dedicated sources, which means they must compete for funds with other local programs and face unreliable funding over time. Over the past few years, more and more communities have created dedicated funding sources by creating fees or taxes designed to fund some or all stormwater program costs. As few local programs receive sufficient funding from a single source to cover all long-term capital, operation, and maintenance costs, most programs have had to assemble a mix of funding sources to meet stormwater program goals and needs. As readers review the many funding sources discussed in this chapter, we urge you to remember that many of the sources are subject to intense competition from others seeking the same funds. For the foreseeable future, however, most local programs will need to assemble a funding portfolio of money from different types of funding sources. This can be done successfully; this chapter discusses several strategies for improving your capacity to assemble a reliable long-term funding plan.
8	Text with Images	**4.1.3: Benefits of Leveraging Dedicated Funding Source** Communities that have dedicated funding sources have access to other funding options that are likely unavailable to communities funded only by general funds. This section discusses how obtaining even a modest dedicated funding source can enable a community to leverage other resources to help pay for larger projects over time in addition to more reliably attending to their operation and maintenance needs. These dedicated funds can be used as future revenue necessary to secure longer term project financing.
9	Chart	**Using a Dedicated Funding Source** **Dedicated Funding Source** (fee, tax) **Pay Current Expenses For Program Operations** (e.g., administration, inspections, O&M on BMPs, customer service) **Revenue to Repay Financing Costs** (e.g. interest and principal costs on project loans/bonds/Public-Private Partnerships (P3s)
10	Text with Images	**Advantages of Financing for Infrastructure Investments**

		The use of financing to fund programs is attractive for investments in infrastructure projects as the pattern for implementing these types of projects usually requires a large up-front expenditure for design/construction services following by smaller expenditures over the course of the life of the infrastructure for operations and maintenance (O&M). With financing, the cost of the asset is spread out over the life of the infrastructure, which effectively "smooths" out the otherwise "lumpy" expenditures. In other words, financing of infrastructure works very similarly to homeowner mortgages. Like a mortgage, there is always interest to be paid on the original expenditure and there is a need for a sound/secure repayment source through revenues generated by the entity, which could take the form of stormwater fees, special service tax districts, or some other dedicated source associated with the stormwater program.
11	Text with "caution" graphic	**Caution: General Funds As a Revenue Source?** General funds or other funding sources that are not dedicated to the stormwater program over the long term (and may vary substantially from year to year) generally are not considered stable revenue sources that make a community eligible for longer term financing. Financing organizations that issue bonds or loans generally expect a predictable revenue source as a condition for eligibility. This restriction may make it difficult or impossible to use financing vehicles if you rely solely on general funds or other variable funding sources.
12	Text with Images	**4.1.4: Tying it All Together: Using Diverse Revenue and Funding Sources and Financing Strategies to Address Capital and O&M Investments** Relying solely on a single funding source, whether it be on a pay-go basis or on debt financing, is less likely to provide sufficient, reliable funding for the long term. Taking the time to develop a dedicated local funding source and using it to help leverage access to other funding and financing vehicles is more likely to yield a sustainable long-term funding plan.
13	Text with Images	**Case Study: Fairfax County, Virginia** Fairfax County, Virginia utilizes a special service tax district as a dedicated revenue source for stormwater management program support. Beyond this revenue source, in 2017, Fairfax County utilized a Virginia state funding program referred to as the "Stormwater Local Assistance Fund" (SLAF), collected proffers revenue associated with development activity that is targeted for stormwater management investments, and relied on funds from municipal bonds for capital investment in a large flood control project built in conjunction with the U.S. Army Corps of Engineers. Link for more information.
14	Text with Images	**Case Study: Prince George's County, Maryland** Prince George's County, Maryland established a user-fee-funded program in response to a 2012 state requirement to establish a plan to pay for stormwater infrastructure investments needed to meet Chesapeake Bay TMDL requirements. This fee has been leveraged through the established public-private partnership (link here to Ch 6) to receive over $48M in SRF assistance at a sub-market rate. In addition, the County's stormwater program is targeted the receipt of funds for stormwater-related services from a variety of sources, including state grants, federal cost-share programs (USACE), in-lieu fees from developers, and Ad Valorum tax contributions. Link for more information.
15	Text with Images	**The Value of a Portfolio Approach**

		These examples illustrate that it can be advantageous to assemble a funding portfolio including a dedicated local revenue source, grants, and various financing vehicles (including loans, bonds, public-private arrangements) that together provide more secure funding for the future.
16	Text with links to italicized text (which links to detailed information under each italicized section	**4.1.5: Factors Affecting Selection of a Funding/Financing Approach** A number of factors can impact the nature and scope of a funding and financing strategy for a community. *Funding/Financing Program Needs and Goals* (link slide 15) *Experience/History* (link slide 16 *Political Support* (link slide 17) *Legal/Statutory Landscape* (link slide 18) *Revenue Stream* (link slide 19) *Credit Rating and Capacity* (link slide 20) *Community Goals* (link slide 21)
17	Text with Images	**Funding/Financing Program Needs and Goals** Identifying capital, O&M and programmatic needs for the current, short-term and long-term timeframes is a critical first step to determining the most appropriate funding or financing strategy. It is also important for justifying additional investment in stormwater. Without a complete understanding of funding needs, decision makers may not be adequately persuaded to meet or trust the funding needs presented. Similarly, focusing only on short-term needs eliminates many possible funding and financing options that can address long-term and ongoing needs. Chapters 1 and 2 discuss the importance of early longterm program planning and advice on developing your plan.
18	Text with Images	**Experience/History** The background and past patterns of funding/financing for stormwater and other infrastructure sectors may predict the most likely options to be considered in the future. For instance, most communities with regulatory obligations for stormwater management invest in this sector on a year-to-year basis with cash on hand rather than using financing for investments in stormwater. That means that most communities will not use financing until or unless other options become more readily available and stormwater program managers become more aware of the advantages of long-term and large-scale investment planning approaches associated with infrastructure financing. Similarly, those communities who are not aware of sub-market financing options, such as the EPA's Clean Water State Revolving Fund (CWSRF) or Water Infrastructure Financing and Innovation Act (WIFIA) Loans, may miss opportunities to take advantage of affordable financing options.
19	Text with Images	**Political Support** Communities who have strong political support for funding of stormwater management programs and investments will have a better chance in getting robust funding programs established. See Chapter 1.3 for more information.
20	Text with Images	**Legal/Statutory Landscape** There may be state, local, or other restrictions on the type of funding and financing that can be used for infrastructure investments. Communities should fully understand the legal ramifications of specific approaches in the context of funding or financing of stormwater management infrastructure. See Chapter 5 for more information.
21	Text with Images	**Revenue Stream**

		The lack of a dedicated revenue stream for stormwater programs will severely limit financing options for stormwater management investments. Discussions regarding the establishment of a dedicated revenue stream should include the dynamics associated with financing options. [LINK TO MODULE 2] Specifically, when a community is considering establishing a new dedicated revenue source for stormwater, a positive argument that should be considered is that this is not just a new fee imposed on community, but is a dedicated revenue source that can greatly expand overall investment, if utilized properly, as other infrastructures utilize financing options available to them.
22	Text with Images	**Credit Rating and Capacity** Financing options may also be limited either by the community's credit rating, and/or the capacity associated with credit available to the community. A community's credit rating is similar to an individual's credit score, as they both express the amount of risk associated with lending to aid decision making for potential lenders. These rankings are based upon a variety of factor that include median income, diversity of tax base, trends in tax revenues or other dedicated revenues, and the rate and nature of population growth and demographics. The capacity for the use of bond financing is also based upon similar dynamics, much like an individual with a credit card has a limit to the amount of purchases can be carried. A community must consider the differing needs for bond financing when determining prioritization for the use of this approach, and how best to prioritize these investments within the existing bond capacity.
23	Text with Images	**Community Goals** Some funding sources and financing programs have limitations or conditions on how funding is used in programs. For instance, Clean Water State Revolving Fund assistance is designated for capital investments and planning efforts only. This limits a community's ability to use these funds for O&M or programmatic investments. Also, it is common for grant dollars to have narrow uses for assistance provided. For instance, support from a grant focused on economic development may require workforce development be part of a stormwater program, and this goal may also align with the interests of community as well. It is important for a community to consider the goals and needs when considering funding and financing approaches.
Subchapter 4.2: Revenue and Funding Sources		
24	Text with links to italicized text (which links to detailed information under each italicized section Can include the benefits/challenges sections below in these links as well (slides 24-52)	**Subchapter 4.2.1 – General Funds** Many communities fund stormwater management through taxes (usually property taxes), paid into their general funds. The amount of funds used to support the stormwater management program are typically determined during the annual municipal budget process.
25	Text with Annimated links for each bullet	**General Funds: Benefits** • Reliable source of funds for a public service like stormwater management • Utilizes existing funding system • Can be used to fund both capital projects and operation and maintenance costs.

		• Possibly can be leveraged to pay back bonds or loans • Tax deductible • Can be used to support planning and predevelopment work
26	Text with Images	**General Funds: Challenges** • In the competition for general fund dollars, stormwater management improvements are typically considered low priority unless the municipality is reacting to a recent major storm or regulatory action. • Property taxes are calculated based on a property's market value and not on its stormwater runoff contribution to the community's stormwater system (and may not be considered a "fair" way to pay for stormwater control responsibilities) • Tax-exempt properties, such as governmental properties, schools, colleges, and universities may be major contributors of stormwater runoff to the community's stormwater system and may unfairly avoid paying their "fair share." When the base of properties that are responsible for contributing to funding is widened, the amount paid for stormwater infrastructure and services by the average residential property owner is reduced. • Using property taxes to fund the stormwater program typically does not provide sufficient or stable funding for stormwater management. The funding could change year to year which makes it difficult for the department implementing the stormwater program to do long term stormwater program and master planning. • Property taxes does not incentivize homeowners and business owners to reduce their contribution of stormwater discharges from entering the community's stormwater system.
27	Text with links to italicized text (which links to detailed information under each italicized section Can include the benefits/challenges sections below in these links as well	**Subchapter 4.2.2 – Taxes and Fees** • Drinking Water and Wastewater Fees • Impact/Developer Fees • Special Assessment/Benefit District • System Development Charges, Impacts Fees, Connection Fees, Tie-in Charge • Fees collected by Other Local Programs
28	Text with Images	**Drinking Water and Wastewater Fees** Some communities include stormwater management costs within their water or sanitary sewer system budgets, passing the cost on to the rate payers. The unit cost of service used in these instances may be based on metered water flow or other metrics associated with the utility that is subject of the charge.
29	Text with Images	**Drinking Water and Wastewater Fees – Benefits** • Reliable source of funds, if properly constructed in the utility/rate program • Utilizes existing financing and billing system • Can be used to support planning and predevelopment work
30	Text with Images	**Drinking Water and Wastewater Fees – Challenges**

		• The lack of an independent utility or authority may limit financing capacity when considering the need for a dedicated repayment source tied to specific financing investments. • The unit of service may not be well aligned with the service provided, which may open a community up to a legal challenge and/or create confusion for the public as well as generate concerns regarding equity issues. For instance, if water usage is used to determine stormwater-related fee, an argument can be made that a property's metered drinking water flow bears no/little relationship to the volume of stormwater runoff it generates. For example, the stormwater runoff from the impervious area of a shopping center's buildings and parking lots may be significant, but its use of metered water may be relatively small. • This approach is probably not available except in communities where stormwater program is integrated with the wastewater and/or drinking water utility/program. • If stormwater is included as part of a fee program associated with another utility, it may not be highlighted as such on billing documentation. This may cause confusion and is not recommended.
31	Text with Images	**Developer Fees** Communities often charge land developers for the cost of site plan reviews, site inspections, and use those fees to support the stormwater program.
32	Text with Images	**Developer Fees - Benefits** Addresses potential stormwater impacts related to new construction and redevelopment and new connections to the stormwater sewer system.
33	Text with Images	**Developer Fees - Challenges** • The developer fees alone are not a significant source of funds, especially to support maintenance of the stormwater system and larger projects or system wide improvements. • These fees are highly variable and do not provide a reliable annual funding stream that could be used as revenue to repay project financing costs. • The developer fees may be perceived to deter development if raised. • The developer fees collected may only address stormwater impacts from sites under construction and not necessarily other ongoing post-construction stormwater impacts.
34	Text with Images	**Special Assessment/Benefit District** If a stormwater construction project benefits only a portion of a municipality, it can be funded by fees assessed only to those properties within that area. This is called a special assessment district.
35	Text with Images	**Special Assessment/Benefit District - Benefits** • Funding could involve fees, as well as credits, for existing best management practices (BMPs) or retrofits. • The district fees can improve the storm sewer system in specific locations. • The district fees are directly connected to improvements and those receiving the benefit. • Benefit districts support regional approaches. Separate stormwater utility districts can be formed within a town or by bringing several towns together to form a district. There might be some cases where regional or multiple jurisdictional funding mechanisms would be useful. For example, if an impaired stream has a fairly small watershed, spanning parts of several

		municipalities, costs of stormwater implementation could be shared among the municipalities and the funding could be managed by an existing regional authority such as a soil and water conservation district. The regulatory authority could choose to issue conditions or a general permit for discharges in the watershed, especially if a watershed stormwater management plan has been prepared (with specific nonstructural and structural BMPs). Parcel owners, developers or permittees could be required to fulfill their requirements by implementing the watershed plan.
36	Text with Images	**Special Assessment/Benefit District - Challenges** • The district only addresses improvements in specific location(s) and the funding is not available for larger projects or system wide improvements. • May require specialized legal arrangements, particularly if multiple jurisdictions are involved or in some cases specific acceptance under current legislation delegating authority to special districts.
37	Text with Images	**System Development Charges (SDCs), Impact fee, Connection fee, Tie-in Charge** One-time fees are commonly charged to new customers connecting to a water or sanitary sewer system. In this way, new customers buy into the existing infrastructure, and/or the infrastructure expansion necessary to serve them. The amount of the new customer's charge or fee is typically based on an estimated water demand of the new customer. Municipalities could develop stormwater system development charges or fees tied to the area of the customer's property.
38	Text with Images	**System Development Charges (SDCs), Impact fee, Connection fee, Tie-in Charge – Benefits** • The connection fee monetizes a service currently provided without a charge to new developments in communities.
39	Text with Images	**System Development Charges (SDCs), Impact fee, Connection fee, Tie-in Charge – Challenges** • The connection fees alone are not a significant, stable source of revenue, especially to support maintenance of the stormwater system and larger projects or system wide improvements. • The connection fees may be perceived to deter development.
40	Text with links to italicized text (which links to detailed information under each italicized section Can include the benefits/challenges sections below in these links as well	**Fees Collected by Other Local Programs** In many communities, stormwater programs are responsible for management activities that may relate to the missions and services of allied departments. In cases where those allied departments have separate funding sources, it may be feasible to tap a portion of those fees to help fund the stormwater program's work in that area. For example, stormwater program actions to control trash may be eligible for funding from solid waste management fees. Projects that restore or improve parklands or natural areas may be eligible for funding from fees that fund the Parks and Recreation Department.
41	Text	**Fees Collected by Other Local Programs – Benefits** • This strategy enables the stormwater program to extend its funding reach beyond the traditional funding sources when the stormwater program assists other programs in carrying out their missions. • This source may provide a steady contribution to program funding needs.

42	Text	**Fees Collected by Other Local Programs – Challenges** • Other programs will likely be reluctant to share their resources with the stormwater program. • Under local budgeting rules it may be infeasible for one program to charge work to another program's budget.
43	Text with Images	**Subchapter 4.2.3 – Dedicated Revenue Sources** A stormwater program or utility, operating much like an electric or water utility, may collect fees related to the control and treatment of stormwater that can be used to fund a municipal stormwater management program. Stormwater fees, which are typically based on property type or impervious area, provide a reliable source for regulatory compliance and operation and maintenance costs
44		**Do I Need a Separate Utility?** It may be advantageous, but not absolutely necessary, to create a separate stormwater utility in order to implement a dedicated fee program. Chapter 5 discusses the pros and cons of establishing a stormwater utility. (LINK)
45	Text with Images	**Stormwater Utilities and Fees** According to the 2018 Western Kentucky Stormwater Survey, there are approximately 1,681 stormwater utilities nationwide and 29 in Canada that collect fees[1]. There are now 6 states with 100 or more stormwater utilities. Forty states and DC have at least one stormwater utility. Figure 1 ([LINK TO FIGURE IN MODULE 5] shows U.S. stormwater utilities by location. The smallest community with a stormwater utility according to the survey is Indian Creek Village, Florida with a 2010 census population of 88. The largest community is Los Angeles with a population exceeding 3,000,000. The average population of a community with a utility is about 69,300 and the median is 18,400. Nationwide, the average monthly single-family residential fee was $5.34, the standard deviation was $6.60 , and the median fee was $4.00.
46	Text with Images	**Stormwater Fee or Utility - Benefits** • A stormwater fee or utility provides a sustainable source of revenue dedicated to the entire stormwater program that can be used for capital projects, project O&M, program implementation, and program planning and predevelopment work. • The revenue generated by the fee or utility can be linked to total program cost. • A cost of a stormwater fee or utility can appear more equitable to the customer because it is usually based on the volume of stormwater generated on the property. • A stormwater fee or utility can apply to all properties generating stormwater including both tax-paying and tax-exempt properties including: government properties, schools, colleges and universities. • A stormwater fee or utility can incentivize homeowners and business owners to reduce the volume of stormwater and prevent pollutants from entering the community's stormwater system. • A stormwater fee or utility secures a reliable source of revenue for repayments of State Revolving Fund loans and to meet grant and bond requirements for financing capital projects. • A stormwater fee or utility provides revenue growth potential and allow for long term and master planning.

[1] https://www.wku.edu/seas/documents/wkusswusurvery17.pdf

		• A stormwater fee or utility can support green infrastructure projects which bring multiple community benefits and attract new financial partners. • A stormwater fee or utility provides revenue to leverage and matching opportunities to attract additional capital partners, supports market-based approaches and public–private partnerships
47	Text with Images	**Stormwater Fee or Utility - Challenges** • A stormwater fee or utility requires significant public dialogue and may require voter approval in certain states. • In some states there are legal restrictions and legislation that may prohibit new fees. • In some states, a stormwater fee may be seen as a tax and may be prohibited or face significant opposition. • The program needs to demonstrate that fees are used only for the intended program purpose; there is little flexibility to use for other purposes (which could also be viewed as a benefit).
48	Text with Images	**Stormwater Special Service Tax District** While the most common form of dedicated revenue for stormwater programs is a stormwater utility fee, there are examples of dedicated funding sources outside of this form. One example is the use of special service districts or usages, which is a way to collect tax revenues for a specified purpose or service, including stormwater management. As previously noted, Fairfax County, Virginia utilizes a special service tax district as a dedicated funding source for stormwater management program support. This approach is to dedicate, by local ordinance, a specified amount of personal property taxes to go to a specified special purpose account. The benefit of this approach is the reduced amount of maintenance and administrative costs while a challenge is the potential perception of a lack of equity, since the tax is not tied to the nature of the problem (runoff generated). However, because it is tax, there is not a requirement that the revenue collected be commensurate with the services provided as it would be required to be if it were a fee.
49	Text with links to italicized text (which links to detailed information under each italicized section Can include the benefits/challenges sections below in these links as well	**Subchapter 4.2.4 - Grants and Philanthropic Funding** Grants have been a staple of stormwater management programs for many years. Grants are available from a range of federal, state, local, and private sources. Many local stormwater programs have made grant funding a central element of their funding strategies. *Public Agency Grant Funding* - Grants are available from many environmental, transportation, emergency management, and community development agencies that can be used to help fund stormwater projects and programs. (insert benefits/challenges from below) *Philanthropy-led Sources of Grant Funding* Philanthropic organizations have a long history of providing support for environmental issues and causes. A benefit of (insert benefits/challenges links as follows:) Benefits:

		- Stormwater infrastructure is needed in many areas within a community where runoff impacts are manifested. The many co-benefits associated with green infrastructure make investments in this infrastructure type attractive to many philanthropies who have interests ranging from public health to workforce issues to urban resilience. The landscape of philanthropies is wide and diverse. Some philanthropic organizations focus on local or regional issues while others work at a national or even a global scale. A group of organizations focused on stormwater infrastructure philanthropic giving is the Urban Water Funders Network. See link for more information: https://www.fundersnetwork.org/participate/urban-water-funders/ Since this form of giving is not sourced from the public sector, there are often fewer reporting requirements. Challenges: If the nonprofit organization receives public funding, the administrative and reporting requirements that exist with public grants may be required for philanthropic grants. Like public grants, this type of funding is not consistent and is highly competitive.
50	Text with Images	**Public Agency Grant Funding for Stormwater Programs- Benefits** • Grants do not require repayment • Grants can provide vital funds for demonstration projects to gain community support and leverage future funding
51	Text with Images	**Public Agency Grant Funding for Stormwater Programs- Challenges** • Grants are highly competitive and not a reliable source of funds. • Grants often require local funding/in-kind match and administrative burdens (to apply for and report on use of the funds) • Grants are one-time source of funds and not sustainable to support a stormwater program. • Operations and maintenance costs are often ineligible for grant funding.
52	Text with Images	**Philanthropy-led Sources of Grant Funding** Philanthropic organizations have a long history of providing support for environmental issues and causes. A benefit of stormwater infrastructure is the many areas within a community where runoff impacts are manifested. The many co-benefits associated with green infrastructure make investments in this infrastructure type attractive to many philanthropies who have interests ranging from public health to workforce issues to urban resilience. The landscape of philanthropies is wide and diverse. Some philanthropic organizations focus on local or regional issues while others work at a national or even a global scale. A group of organizations focused on stormwater infrastructure philanthropic giving is the Urban Water Funders Network. See link for more information: https://www.fundersnetwork.org/participate/urban-water-funders/ Since this form of giving is not sourced from the public sector, there is often fewer reporting requirements. However, if the organization receives public funding, the requirements that exist with public grants may be required for philanthropic grants. Like public grants, this type of funding is not consistent and is highly competitive.
53	Text with Images	**Section 4.2.5 Federal Sources of Funding for Stormwater Programs** The federal government has many programs that provide assistance to communities struggling with challenges related to stormwater runoff. Since stormwater has such a

		wide impact on communities ranging from affordable housing to parks to flood emergencies to economic development, these funding opportunities cross several federal agencies and departments. A listing of these sources is provided in this subchapter including: *- Environmental Protection Agency (LINK to section below)* *- U.S. Department of Housing and Urban Development (LINK)* *-Department of Homeland Security – Federal Emergency Management (LINK)* *- Department of Defense – Army Corps of Engineering (LINK)* *- U.S. Department of Transportation, Federal Highway Administration (LINK)* *- U.S. Department of Agriculture (LINK)* *- U.S. Department of the Treasury (LINK)* *- U.S. Department of the Energy (LINK)* *- U.S. Department of Commerce (LINK)* *- U.S. Department of the Interior (LINK)* It should be noted that "speed" is associated with various funding sources. Specifically, this is the time taken – and the associated level of effort required – for funding to become available for implementation. It is not uncommon for federal funding to be relatively slow and require a significant amount of upfront transaction effort as well as ongoing reporting and documentation. These attributes should be considered when contemplating funding and financing options.
54		**Federal Sources of Funding for Stormwater Programs** *Environmental Protection Agency* • ***Clean Water State Revolving Fund [LINK TO SRF 101 MODULE]*** • *Water Infrastructure Finance and Innovation Act (WIFIA)* ***[LINK TO WIFIA MODULE]*** • *Section 319 Nonpoint Source Grant Program* • *Urban Waters Small Grant Program* • *Five Star and Urban Waters Restoration Program* • *Healthy Watersheds Consortium* • *National Estuary Program* • Wetlands Program Development Grants
55		**Federal Sources of Funding for Stormwater Programs** *Environmental Protection Agency* **Clean Water State Revolving Fund (CWSRF)** Using a combination of federal and state funds, the CWSRF provides loans to construct municipal wastewater facilities, control nonpoint sources of pollution, build decentralized wastewater treatment systems, create green infrastructure projects, protect estuaries, and fund other water quality projects. For more information, see the State Revolving Fund 101 Training Module (LINK to WIRFC SRF 101 Training Module).

		The CWSRF is a critical source of funding for a community's financing portfolio. Building on a federal investment of $42 billion, the state CWSRFs have provided more than $126 billion to communities through 2017. It can provide financial assistance to publicly and privately owned, permitted and unpermitted projects that manage, reduce, treat, or recapture stormwater or subsurface drainage water. Types of projects that can be funded include: • Green Infrastructure - including the installation or construction of green roofs, rain gardens, roadside plantings, porous pavement, bioretention ponds, bioswales, and rainwater harvesting. • Gray Infrastructure - including traditional pipe, storage, and treatment systems, real-time CSO management control systems, and sediment control features (e.g., filter fences, street sweepers, and vacuum trucks).
56		**Clean Water State Revolving Fund** **Repayment** Potential borrowers must identify a repayment source before a loan is approved. The source of repayment need not come from the project itself. Some potential repayment sources for stormwater project may include: - Stormwater utility fees - Wastewater user charges - Fees paid by developers - Recreational fees (fishing licenses, entrance fees) - Dedicated portions of local, county, or state taxes or fees - Donations or dues made to nonprofit organizations - Individual or business revenues Case Study- Using stormwater fees as a source of repayment - The City of Port Townsend, WA met both stormwater management and wetland preservation objectives using a $400,000 loan at 0% interest through the Washington State CWSRF. The City purchased Winona Wetland in order to prevent development at the site, protecting its stormwater collection and wildlife protection uses. The City paid back the $400,000 loan in its entirety in 5 years through its residential stormwater fee ($5 per household per billing cycle). - The City of Marathon, FL received a $4.6 million CWSRF loan from the Florida Department of Environmental Protection to implement wastewater collection/reuse and establish a stormwater vacuum trench exfiltration system. The City was able to acquire this loan by pledging proceeds from its stormwater utility service assessments (i.e., impervious ERU-based stormwater fees) as the source of funds for loan repayment.
57		**Clean Water State Revolving Fund**

		EPA and its partners have developed policies, guides and other information to incentivize financing stormwater and green infrastructure using the CWSRF. Financing Options for Nontraditional Eligibilities in the CWSRF (2017)– This EPA paper focuses on how varied types of financial assistance available to the CWSRF program can fund eligibilities such as privately owned green infrastructure, privately and publicly owned projects for reusing or recycling stormwater, and watershed projects. Green Infrastructure Policy for the CWSRF - In January 2016, EPA put out a policy to increase financing of green infrastructure projects nationally through actions including prioritizing projects, marketing the program and providing financial incentives, such as additional subsidization. Funding Stormwater Management with the Clean Water State Revolving Fund (2016) - Factsheet about how the CWSRF funds stormwater projects. Financing Green Infrastructure: A Best Practices Guide for the CWSRF (2015) – This guide illustrates incentives can states can use to encourage financing of green infrastructure and foster sustainability within their programs. Innovative CWSRF financing mechanisms: • Co-funding - with other federal or state programs • Sponsorship – POTW project paired with green infrastructure project • Conduit Lending - pass-through and linked deposit loans • Guarantees
58		**Clean Water State Revolving Fund** **Using the Green Project Reserve (GPR) to Finance Stormwater Projects** The CWSRF Green Project Reserve allows states to focus funding on green infrastructure, water efficiency, energy efficiency, and environmentally innovative activities. States can incentivize GPR projects through principal forgiveness and reduced interest rates. The Green Project Reserve is a signification source of funds for stormwater projects. It provided $4.1 billion to sustainable water infrastructure projects since 2010. $950 million to over 600 green infrastructure projects (since 2016). More than $70 million in additional subsidization for green infrastructure projects. For more information about financing eligibilities for stormwater projects under the Green Project Reserve, see: 2012 Clean Water State Revolving Fund, 10% Green Project Reserve: Guidance for Determining Project Eligibility
59		**Clean Water State Revolving Fund** **CWSRF state programs can provide technical assistance for green infrastructure.** **Case Studies** • Arizona SRF provided $34,920 in technical assistance funding - Solving flooding challenges with Green Stormwater Infrastructure in the Airport Wash Area,

		Tucson, AZ. The project used a holistic cost/ benefit analysis which showed that green infrastructure can significantly reduce flooding and pollution from both large and small storm events. • The New York State Environmental Facilities Corporation uses their additional subsidy dollars to provide funding to green infrastructure projects through their Green Innovation Grant Program. - Covers eight green infrastructure practices, ranging from rain gardens to stream "daylighting" projects. - Recipients receive grants covering up to 90% of eligible project costs and are required to provide at least 10% matching funds. - $115.3 million awarded to 153 projects across New York State. City of Rome, NY Canopy Restoration Project - $230,900 SRF grant to install porous pavement and plant 450 trees in low-to-moderate income neighborhoods. The project has reduced impacts on Wood Creek, the Mohawk River and the NYS Barge Canal. When fully mature, the new trees will capture approximately 695,000 gallons of rainwater and will remove 26,500 tons of carbon dioxide and 430 pounds of air pollutants.
60		**Federal Sources of Funding for Stormwater Programs** *Environmental Protection Agency* *Water Infrastructure Finance and Innovation Act (WIFIA)* WIFIA is a federal credit program administered by EPA for eligible water and wastewater infrastructure projects, including stormwater and green infrastructure projects. (LINK to WIFIA Training Module) Case Study Using WIFIA funds, King Co., WA will construct a new wet weather treatment station, conveyance pipelines and outfall structure to treat combined sewer overflows to the Lower Duwamish Waterway.
61	Text with Images	**Federal Sources of Funding for Stormwater Programs** *Environmental Protection Agency* Section 319 Nonpoint Source Grant Program - Funding goes to states to reduce nonpoint source pollution (pollution caused by rainfall running over the ground and carrying pollutants including trash, oil and grease, and fertilizers into nearby waterways). EPA's most recent program guidance recognized the "importance of green infrastructure… in managing stormwater" and supported awarding funding to green infrastructure projects.
62	Link as Case Study to slide 57	**Federal Sources of Funding for Stormwater Programs** *Environmental Protection Agency* Section 319 Nonpoint Source Grant Program Case Study - The District of Columbia Department of Energy and Environment (DOEE) used Section 319 funding to partially fund remediation of the Watts Branch watershed in northeast D.C. Watts Branch suffered from severe erosion and sediment pollution due to frequent flooding. DDOE led a project to restore the stream bed and control flooding using tree and shrub plantings, regrading of the stream bed, and upstream low-impact development practices to manage impervious surface runoff.
63	Text with Images	**Federal Sources of Funding for Stormwater Programs** *Environmental Protection Agency*

		Urban Waters Small Grants Program - Funding to communities to improve the quality of urban waters while simultaneously stimulating neighborhood revitalization. The Urban Waters Small Grants Program has a focus on underserved communities, defined as "communities with environmental justice concerns and/or susceptible populations." The Program can be used specifically for innovative or new green infrastructure practices that improve water quality; state, local, and tribal governments, as well as universities and nonprofit organizations, are eligible to apply.
64	Link to slide 59 as case study	**Federal Sources of Funding for Stormwater Programs** *Environmental Protection Agency* *Urban Waters Small Grants Program* Case Study - The Constitutional Rights Foundation, in partnership with Los Angeles Waterkeeper and UCLA, received an Urban Waters Small Grant award to work with four high schools in Los Angeles County. College- aspiring students will be taught how to collect data related to trash and industrial stormwater pollution. Up to five seniors from UCLA's Environmental Sciences bachelors program will serve as peer mentors and role models for participants (2015/6).
65	Text with Images Link to slide 5 as case study	**Federal Sources of Funding for Stormwater Programs** *Environmental Protection Agency* *Urban Waters Small Grants Program* Case Study – Funded with an EPA Urban Waters Small Grant Award, Heal the Bay will monitor bacterial water pollution at two recreational zones in the Los Angeles River. Water quality data will be made available regularly to the public. Results of the study will be used to make recommendations to agencies and watershed stakeholders for improving water quality and protecting public health (2015/6).
66	Text with Images	**Federal Sources of Funding for Stormwater Programs** *Environmental Protection Agency* Five Star and Urban Waters Restoration Program – The Five Star and Urban Waters Restoration Program seeks to develop nation-wide-community stewardship of local natural resources, preserving these resources for future generations and enhancing habitat for local wildlife. Projects seek to address water quality issues in priority watersheds, such as erosion due to unstable streambanks, pollution from stormwater runoff, and degraded shorelines caused by development.
67	Text with Images	**Federal Sources of Funding for Stormwater Programs** *Environmental Protection Agency* Healthy Waters Consortium Grant- The Healthy Watersheds Consortium (HWC), a partnership between the U.S. Endowment for Forestry and Communities, the U.S. Environmental Protection Agency, and the USDA Natural Resources Conservation Service. The goal of the HWC Grant Program is to "accelerate strategic protection of healthy, freshwater ecosystems and their watersheds", with primary focus on prevention of land deterioration in the watershed.
68	Text with Images	**Federal Sources of Funding for Stormwater Programs** *Environmental Protection Agency* The National Estuary Program - The National Estuary Program (NEP) is an EPA place-based program to protect and restore the water quality and ecological integrity of estuaries of national significance. Currently, 28 estuaries located along the Atlantic, Gulf, and Pacific coasts and in Puerto Rico are designated as estuaries of national

		significance. Each NEP focuses within a study area that includes the estuary and surrounding watershed.
69	Text with Images	**Federal Sources of Funding for Stormwater Programs** *Environmental Protection Agency* Wetlands Program Development Grants- provide eligible applicants an opportunity to conduct projects that promote the coordination and acceleration of research, investigations, experiments, training, demonstrations, surveys and studies relating to the causes, effects, extent, prevention, reduction and elimination of water pollution.
70		**Federal Sources of Funding for Stormwater Programs** *Environmental Protection Agency* Water Research Grants - EPA funds water research grants to develop and support the science and tools necessary to develop sustainable solutions to 21st century water resource problems, ensuring water quality and availability in order to protect human and ecosystem health.
71		**Federal Sources of Funding for Stormwater Programs** *U.S. Department of Housing and Urban Development* • Community Development Block Grant (CDBG) • Community Development Block Grant – Disaster Recovery (CDBG-DR) - • Sustainable Communities Regional Planning Grants • Community Challenge Planning Grants • Section 108 Loan Guarantee Program
72	Text with Images	**Federal Sources of Funding for Stormwater Programs** *U.S. Department of Housing and Urban Development* Community Development Block Grant (CDBG) - Eligible to fund stormwater and green infrastructure because these projects can create jobs, increase economic activity, and increase property values. For example, urban tree planting can increase economic activity in a commercial district. Additionally, green infrastructure can increase property values by mitigating flooding, improving neighborhood aesthetics, and providing other co-benefits.
73	Text with Images Link case study with slide 6	**Federal Sources of Funding for Stormwater Programs** *U.S. Department of Housing and Urban Development* Community Development Block Grant (CDBG) Case Study - Detroit, MI, used $8.9 million in CDBG funds in 2014 to create a major flood prevention and economic development program. Detroit is using the funding to demolish blighted properties, landscape and install trees on 200 vacant lots to improve stormwater management and neighborhood aesthetics, and install infrastructure that will direct stormwater into new bio-retention basins.
74	Text with Images	**Federal Sources of Funding for Stormwater Programs** *U.S. Department of Housing and Urban Development* Sustainable Communities Regional Planning Grants - Supports metropolitan and multijurisdictional planning efforts to integrate housing, land use, economic and workforce development, transportation, and infrastructure investments in a manner that empowers jurisdictions to consider the interdependent challenges of economic competitiveness and revitalization, social equity, inclusion, and access to opportunity, energy use and climate change, and public health and environmental impact.

75	Text with Images	**Federal Sources of Funding for Stormwater Programs** *U.S. Department of Housing and Urban Development* Community Challenge Planning Grants - Fosters reform and reduces barriers to achieving affordable, economically vital, and sustainable communities. Such efforts may include amending or replacing local master plans, zoning codes, and building codes, either on a jurisdiction-wide basis or in a specific neighborhood to promote mixed-use development, affordable housing, the reuse of older buildings for new purposes, and similar activities with the goal of promoting sustainability at the local or neighborhood level.
76	Text with Images	**Federal Sources of Funding for Stormwater Programs** *U.S. Department of Housing and Urban Development* Green Infrastructure and the Sustainable Communities Initiative report provides case studies of 30 local governments who have used U.S. HUD Sustainable Communities Regional Planning Grants or Community Challenge Planning Grants to fund green infrastructure programs. Generally, HUD SCI grantees have planned for climate resilience by identifying strategic areas to implement stormwater best management practices with a dual approach to stormwater management that uses both traditional gray infrastructure and green infrastructure.
77	Text with Images link case study with slide	**Federal Sources of Funding for Stormwater Programs** *U.S. Department of Housing and Urban Development* Community Challenge Planning Grants Case Study - The City of Pittsburgh combined funding from a HUD Community Challenge Planning Grants with funding from a U.S. DOT TIGER II grant to fund the planning of the Allegheny Riverfront Green boulevard project.
78	Text with Images	**Federal Sources of Funding for Stormwater Programs** *U.S. Department of Housing and Urban Development* Section 108 Loan Guarantee Program - Allows future CDBG allocations to be used to guarantee loans for neighborhood revitalization projects, including construction and installation of public facilities and infrastructure. Section 108-guaranteed projects can incorporate green infrastructure into their design and construction.
79	Text with Images	**Federal Sources of Funding for Stormwater Programs** *U.S. Department of Housing and Urban Development* Community Development Block Grant – Disaster Recovery (CDBG-DR) - Provides federal aid to states post-disaster, and funds can be used for a variety of community development activities that benefit low- and moderate-income individuals, reduce blight, or address an urgent community need. In rehabilitating housing and constructing public amenities, cities may be able to incorporate green infrastructure techniques (like street trees and permeable pavements) in street design.
80		**Federal Sources of Funding for Stormwater Programs** *Department of Homeland Security – Federal Emergency Management Agency (FEMA)* • Hazard Mitigation Grant Program (HMGP) • Pre-Disaster Mitigation Grant Program • Flood Mitigation Assistance (FMA) Grant Program
81	Text with Images	**Federal Sources of Funding for Stormwater Programs**

		Department of Homeland Security – Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program (HMGP) - Provides post-disaster federal aid to states to mitigate the risks of future disasters and can fund flood mitigation projects, including acquisition and relocation of flood-prone properties and soil stabilization projects like the installation of vegetative buffer strips.
82	Text with Images Link as case study to slide 71	**Federal Sources of Funding for Stormwater Programs** *Department of Homeland Security – Federal Emergency Management Agency (FEMA)* Hazard Mitigation Grant Program (HMGP) Case Study - New Orleans used HMGP funding for its post-Katrina rebuilding process, including the reconstruction of the city's stormwater infrastructure. Although the New Orleans Stormwater plan calls for a significant expansion of green infrastructure to manage the city's chronic flooding, the city initially had difficulty demonstrating the benefits of green infrastructure under FEMA's required benefit-cost analysis because the city 1) lacked the data to demonstrate potential flood losses avoided and 2) could not count many of green infrastructure's environmental benefits. Demonstrating the cost-benefit of green infrastructure under HMGP has been much easier since FEMA amended its policy to allow counting of some "ecosystem services" (including aesthetic value, air quality, recreation space, and water filtration) as benefits.
83	Text with Images	**Federal Sources of Funding for Stormwater Programs** *Department of Homeland Security – Federal Emergency Management Agency (FEMA)* Pre-Disaster Mitigation Grant Program - Funds to implement a sustained pre-disaster natural hazard mitigation program. The goal is to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on Federal funding in future disasters. This program awards planning and project grants and provides opportunities for raising public awareness about reducing future losses before disaster strikes. Mitigation planning is a key process used to break the cycle of disaster damage, reconstruction, and repeated damage. PDM grants are funded annually by Congressional appropriations and are awarded on a nationally competitive basis.
84	Text with Images Link as case study to slide 73	**Federal Sources of Funding for Stormwater Programs** *Department of Homeland Security – Federal Emergency Management Agency (FEMA)* Pre-Disaster Mitigation Grant Program Case Study - Lake Forest Park, Washington – Lyon's Creek Flood Control and Wildlife Habitat Improvements Residents, businesses and local commuters have suffered from frequent flooding problems when heavy rain causes Lyon Creek to overflow into and around a shopping center, com-munity facilities and a four-lane arterial highway. Fortunately, a "Green Infrastructure" alternative was conceived in 2012 and eventually approved and completed in 2015. The Lyon Creek Flood Mitigation Project involved restoring a creek area that had previously been "channelized" to add natural flood storage capacity.
85	Text with Images	**Federal Sources of Funding for Stormwater Programs** *Department of Homeland Security – Federal Emergency Management Agency (FEMA)* Flood Mitigation Assistance (FMA) Grant Program - The FMA program aims to reduce or eliminate claims under the National Flood Insurance Program (NFIP). FMA provides funding to States, Territories, federally-recognized tribes and local communities for projects and planning that reduces or eliminates long-term risk of flood damage to structures insured under the NFIP. FMA funding is also available for management costs. Funding is appropriated by Congress annually.

		FEMA requires state, tribal, and local governments to develop and adopt hazard mitigation plans as a condition for receiving certain types of non-emergency disaster assistance, including funding for HMA mitigation projects. For more information on mitigation plan requirement or refer to the current HMA. Generally, local communities will sponsor applications on behalf of homeowners and then submit the applications to their State. All FMA grant applications must be submitted to FEMA by a State, U.S. Territory, or federally-recognized tribe. Please refer to the current HMA guidance for detail information on the Flood Mitigation Assistance Program.
86	Text with Images	**Federal Sources of Funding for Stormwater Programs** *Department of Defense – Army Corps of Engineering* Planning Assistance to States (PAS) - The Corps of Engineers can provide states, local governments, other non-Federal entities, and eligible Native American Indian tribes assistance in the preparation of comprehensive plans for the development, utilization, and conservation of water and related land resources. Typical studies are only planning level of detail; they do not include detailed design for project construction. The program can encompass many types of studies dealing with water resources issues. Types of studies conducted in recent years under the program include the following: water supply/demand, water conservation, water quality, environmental/conservation, wetlands evaluation/restoration, dam safety/failure, flood damage reduction, coastal zone protection, and harbor planning. Cost Sharing Requirements. Efforts under this program are cost shared on a 50% Federal – 50% non-Federal basis. The study sponsor has the option of providing in-kind services for its share of the study cost.
87		**Federal Sources of Funding for Stormwater Programs** *Department of Defense – Army Corps of Engineering* *Section 205 Small Flood Damage Reduction Projects* The U.S. Army Corps of Engineers (Corps) can partner with a nonfederal sponsor to plan and construct small flood damage reduction projects that have not previously been specifically authorized by Congress and are not part of a larger project. Projects may be structural (i.e., levees, flood walls, diversion channels, pumping plants and bridge modifications) or non-structural (i.e., floodproofing, relocation of structures and flood warning systems).

88		**Federal Sources of Funding for Stormwater Programs**
		U.S. Department of Transportation
		
		• Better Utilizing Investments to Leverage Development (BUILD) grant program – formerly TIGER
		• *Federal Highway Administration*
		  ○ Surface Transportation Block Grant – Transportation Alternatives Set-Aside
		  ○ Congestion Mitigation and Air Quality (CMAQ) program

89	Text with Images	**Federal Sources of Funding for Stormwater Programs** *U.S. Department of Transportation* Better Utilizing Investments to Leverage Development (BUILD) grant program Funds investments in road, rail, transit and port projects. Previously known as Transportation Investment Generating Economic Recovery, or TIGER Discretionary Grants TIGER grants have been awarded to projects that included green infrastructure components.
90	Text with Images Link as case study to slide 77	**Federal Sources of Funding for Stormwater Programs** *U.S. Department of Transportation* Case Study: Syracuse Connective Corridor project – Funded with a DOT grant, the Connective Corridor project in Syracuse created more bikeable and walkable streets to encourage active transportation and reduce greenhouse gas emissions, and incorporated green infrastructure elements such as tree trenches and porous pavements.
91	Text with Images	**Federal Sources of Funding for Stormwater Programs** *Federal Highway Administration* Surface Transportation Block Grant – Transportation Alternatives Set-Aside - Provides funding for "transportation alternatives," including "off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation." TAP funding could be used to pay for green infrastructure components of trails and sidewalks such as permeable pavements.
92	Text with Images Link as case study to slide 87	**Federal Sources of Funding for Stormwater Programs** *Federal Highway Administration* Surface Transportation Block Grant – Transportation Alternatives Set-Aside - Case Study - The Southeast Michigan Council of Governments (SEMCOG) used TAP funding in 2015 from the state of Michigan to fund the Detroit – Inner Circle Greenway Railroad Acquisition, which included 1) installation of green infrastructure such as green streets and bioretention and 2) repurposing of 8.3 miles of abandoned railway near Detroit.
93	Text with Images	**Federal Sources of Funding for Stormwater Programs** *Federal Highway Administration* Congestion Mitigation and Air Quality (CMAQ) program - Allocates federal funding for infrastructure projects that reduce congestion and improve air quality. Bicycle transportation and pedestrian walkways are eligible uses of the money, and can be designed to include green infrastructure features, such as permeable surfaces for trails, and bioswales and bioretention for areas adjacent to trail surfaces. Case Study: The City of Santa Fe's Acequia Trail Underpass project used CMAQ funding in 2017/18 via the New Mexico DOT to construct a bicycle underpass under federal highway US 284/85 to improve safety of pedestrians and bicyclists crossing one of the city's busiest and most congested intersections along the alignment of an abandoned rail line. The work installed low-impact development drainage basins which capture and infiltrate 100-percent of the on-site stormwater up the 100-year storm, and other green infrastructure elements such as soil-enhanced swales and landscaping to improve site-permeability.
94		**Federal Sources of Funding for Stormwater Programs**

		U.S. Department of Agriculture ▪ Rural Development ○ Water and Environmental Programs (WEP) ○ Water and Waste Disposal Loan and Grant Program • U.S. Forest Service Urban and Community Forestry Program
95	Text with Images	**Federal Sources of Funding for Stormwater Programs** *U.S. Department of Agriculture* Rural Development Water and Environmental Programs (WEP) - WEP is exclusively focused on the water and waste infrastructure needs of rural communities with populations of 10,000 or less. The programs provide technical assistance and financing for development of drinking water, waste disposal, and stormwater systems in rural areas.
96	Text with Images	**Federal Sources of Funding for Stormwater Programs** *U.S. Department of Agriculture* Rural Development Water and Waste Disposal Loan and Grant Program - Provides funding for clean and reliable drinking water systems, sanitary sewage disposal, sanitary solid waste disposal, and storm water drainage to households and businesses in eligible rural areas.
97	Text with Images	**Federal Sources of Funding for Stormwater Programs** *U.S. Department of Agriculture* U.S. Forest Service Urban and Community Forestry Program - Urban and Community Forestry (UCF) is a cooperative program of the US Forest Service that focuses on the stewardship of urban natural resources – provides grants for urban forestry projects.
98	Text with Images	**Federal Sources of Funding for Stormwater Programs** *U.S. Department of the Treasury* New Markets Tax Credit program - Encourages private investment in a range of project types in distressed areas (e.g., real estate or business development projects). Awards are allocated to nonprofit and private entities based on their proposals for distributing the tax benefits.
99	Text with Images	**Federal Sources of Funding for Stormwater Programs** *U.S. Department of the Energy* Energy Efficiency Savings – Tax Incentives and Rebates - Green infrastructure can be integrated into project design to claim tax incentives and rebates. For example, Eugene, Oregon, a new biofuel station built on an abandoned gas station site included a green roof, bioswales and rain gardens. Nearly $250,000 worth of tax credits reduced income and sales tax for the private company that built and operated the project.
100	Text with Images	**Federal Sources of Grant Funding for Stormwater Programs** *U.S. Department of the Energy* Weatherization and Intergovernmental Program - Provides grants, technical assistance, and information tools to states, local governments, community action agencies, utilities, Indian tribes, and U.S. territories for their energy programs. The funding can be used to encourage installation of green infrastructure—such as green roofs—as part of the weatherization process.
101	Text with Images	**Federal Sources of Funding for Stormwater Programs** *U.S. Department of Commerce* Economic Development Administration: Public Works and Economic Adjustment Assistance programs (EDAP) - Support a range of business and industrial development

		activities—including infrastructure development—that create or retain jobs. EDA-capitalized revolving loan funds encourage new business development in economically distressed communities.
102	Text with Images	**Federal Sources of Funding for Stormwater Programs** *U.S. Department of Interior* National Ocean and Atmospheric Administration: Community-Based Restoration Program - Program began in 1996 to inspire and sustain local efforts to restore coastal habitat. It has funded more than 1,500 projects in the United States, Canada, the Caribbean, and the Pacific Islands that have restored more than 41,000 acres of habitat and opened more than 1,700 stream miles for fish passage.
Subchapter 4.3: Financing Options and Considerations		
103	Text with links to italicized text (which links to detailed information under each italicized section	**4.3.1 – Financing Tools** This section discusses a range of available financing tools to acquire funding for project construction. • *Traditional Loans (link 104) (CHECK LINK #s)* • *Municipal Bonds (Link 105-107)* • *Private Activity Bonds (link 108)* • *Taxable Bonds (link 109)* • *Green Bonds (link 110)* • *Philanthropic Financing (link 111)* • *Traditional Private Financing (link 112)* • *Impact Investor Financing (link 113-114)* • *Clean Water Sector Low-Interest Loans (link 115)*
104	Text with Images	**Traditional Loans** This is a standard form of financing where funding is provided by a private institution, such as a bank, and repayment must be made with interest. • Borrow money from a private banking institution and repay with interest • Decent option for a community who has limited access to the municipal bond market • Interest tied to risk – tends to be much higher than municipal bonds in cost • Less transparent than municipal bond transactions
105	Text with Images	**Municipal Bonds** There are generally two types of municipal bonds: revenue bonds and general obligation, or "GO," bonds. • A revenue bond is a municipally issued bond that is backed (or "secured") by a specific stream of revenue, such as a stormwater fee or other fee or tax. • A GO bond can be issued without a specified revenue source pledged to repay that debt. Instead of tying debt repayment to a particular source, a GO bond puts the "full faith and credit" of the municipality on the line to backstop the repayment of the debt. ○ Cities are protective of their GO bond capacity. Any single GO bond issuance impacts the city's ability to issue debt for any other purpose, and any failure to repay puts the city's credit rating at great risk, imperiling its ability to borrow at all. In many cases, weak

		local credit ratings, a declining tax base, or existing debt can make GO bonds an expensive source of capital.
106	Text with Images	**Municipal Bonds - Benefits** • Bonds can be utilized for large, long-term expenditures • Cheaper form of obtaining capital compared to traditional bank loans • Municipal bonds are tax exempt, which makes these attractive investments
107	Text with Images	**Municipal Bonds – Challenges** • Bonds are dependent on fiscal capacity • Bonds can present high transaction costs for cities and may require significant administrative preparation to issue, which may be a challenge for smaller communities.
108	Text with Images	**Private Activity Bonds** A type of municipal bond that is issued by a local government on behalf of a private entity who is associated with a project public good/purpose. Like municipal bonds, PABs are tax exempt; however, each state has a set cap on these vehicles.
109	Text with Images	**Taxable Bonds** Similar to municipal bonds or private activity bonds, but these issuances are not tax-exempt. While this condition makes this financing option less appealing in general, there are situations where a taxable bond is appropriate, such as for projects that may not directly benefit the public in clear ways.
110	Text with Images	**Green Bonds** Similar to a traditional municipal bond, but is targeting specific "green" projects. Most activity in this space is associated with energy projects. Early findings suggest that these bonds have increased reporting costs with no/little measurable price benefit at bond issuance; however, this may change as these financial products become more common. The currently most well-known green bond in the water sector is the DC Water "Green Century Bond", which was an issuance of a $450M of mixed taxable and tax-exempt bonds focused on addressing DC Water's CSO challenges. The reasons provided for the use of a 100-year term (while most traditional bonds use a 20- or 30-year term) was to align the term with lifespan of the infrastructure, for inter-generational equity, and to maximize the historically low interest rates for long-term investment. See more information here - https://www.dcwater.com/whats-going-on/news/dc-water-announces-successful-sale-350-million-green-century-bonds (May add another case study from Metropolitan Water Reclamation Water District of Chicago)
111	Text with Images	**Philanthropic Financing** This type of financing originates with foundations or non-governmental organizations (NGOs), who are mission driven. While philanthropic investments in environmental issues is traditionally assumed to be in grant format, there are examples of financing in the stormwater and wastewater sector. One example is the Seattle Public Utilities' Rainwise Pilot Access Loans, which is a program led by an NGO (Craft3) who provides low-interest loans for investments to address failing septic systems and to enable more Seattle residents to adopt green stormwater infrastructure on-site. This program aids socio-economically disadvantaged property owners who could not otherwise provide the upfront capital for the investment to address runoff-related

		pollution. More information on this program can be found here - https://www.craft3.org/About/news/news-detail/2016/02/05/seattle's-pioneering
112	Text with Images	**Traditional Private Financing** This form of financing is based upon traditional private investors who are seeking short-term high return investment. This investment approach is often more speculative in nature, so high risk is tied to a high interest rate. This is generally not best option for public infrastructure financing, but it can be appropriate for investing in innovative technologies or other speculative investments and can be used as targeted, short-term financing conditions.
113	Text with Images	**Impact Investor Financing** This financing approach is nascent, but there is significant interest on the potential in this space. The premise of this approach is based upon the dynamics of a class of investors who wish to have an impact with their investments in areas such as social justice or environmental improvement. While more traditional private investor profiles seek relatively high rates of return (12% or higher), "impact" investors will theoretically accept lower rates of return for investments that make measurable social or environmental improvements. This approach, also referred to as "social capital" investing, should hypothetically drive investment capital that is cheaper than private equity financing. This type of financing if often associated with "pay for success" or "pay for performance" arrangements, which are new and emerging frameworks in the social and environmental infrastructure space that have been created to reward the level of "performance" or "success" of a program rather than for the services provided.
114	Text with Images	**Impact Investor Financing** Case Study - The most well-known example of this approach, which uses impact investing as a financing vehicle, is the DC Water Pay-for-Success program for green stormwater infrastructure. This program, also known as the DC Water Environment Impact Bond, was established to construction green stormwater infrastructure to manage runoff from 20 impervious acres within Washington, D.C. The program captured $25M in tax exempt investments for this work, and will provide returns to investors based upon the performance of a high-monitored system where the green infrastructure is being constructed. The details of the financing for these types of arrangements are complex and require highly-qualified financing professionals for proper issuance and formation. More information on the DC Water Pay For Success program can be found here: https://www.dcwater.com/whats-going-on/news/dc-water-goldman-sachs-and-calvert-foundation-pioneer-environmental-impact-bond. Two other cities have recently announced similar plans to use the pay-for-success approach in their areas (Atlanta, Baltimore). The benefits of this approach include the tie between performance and payment as well as the potential for lower-cost private investment. The disadvantages of this approach include the high level of complexity for formation/arrangement, and experiences in other sectors indicate that conditions in these frameworks may result in higher interest rates than originally envisioned. See EPA's Paper: DC Water's Environmental Impact Bond: A First of its Kind https://www.epa.gov/sites/production/files/2017-04/documents/dc_waters_environmental_impact_bond_a_first_of_its_kind_final2.pdf
115	Text with Images	**Clean Water Sector Low-Interest Loans**

		Programs in the Clean Water sector have opportunities to receiving funding through sub-market loan programs. The largest source of low interest loans to support stormwater programs is the Clean Water State Revolving Fund, but there are other federal loan programs that can be used for stormwater projects. (LINK TO SRF DISCUSSION ABOVE SLIDE 55-59)
116	Text with Images	**4.3.2 - Financing Considerations for Distributed Infrastructure** A barrier for financing of stormwater infrastructure is based in interpretations on accounting rules that drive accounting practices used by utilities and communities when considering financing as an option for distributed infrastructure, such as graywater reuse systems, service line replacements, indoor water efficient appliances, and green stormwater infrastructure. A significant amount of water infrastructure is large and centralized (think of a drinking water or wastewater treatment plant), which is owned and operated by a utility or a community. Distributed infrastructure, to contrast, is located on public and private properties, and is found in locations such as businesses, homes, parks and roads.
117	Text with Images	**4.3.2 - Distributed Infrastructure Finance- Rule Changes** A change was made by the Governmental Accounting Standards Board (GASB) in 2018 to clarify that distributed infrastructure could be considered as an asset. This change makes the ability to utilize financing – such as municipal bonds – which opens up the door to long-term and large-scale investments that can be paid over 20 or 30 years rather than paid in cash through revenues available in a year-by-year basis. Care should be made to consult with bond counsel and financial advisors regarding the details when considering municipal bond or other financing for any distributed infrastructure, such as stormwater management infrastructure. One example regarding legal issues is the fact that IRS regulations state that a bond should be considered as a private activity bond if more than 10% of bond proceeds will go towards "private business use". In some instances, this threshold may be crossed for stormwater management programs that "benefit" private businesses. In this instance, it may be beneficial to consider taxable bonds rather than tax exempt private activity bonds, which are subject to the alternative minimum tax provisions.
118		**Conclusion: Creating the Funding Portfolio** This chapter discussed many of the currently available sources of funding and strategies for financing capital projects and costs. Now the challenge is to link your advanced preparations (Chapter 1), long term program plan (Chapter 2), your assessment of present and future costs (Chapter 3), and your evaluation of potential funding and financing approaches (Chapter 4) to create a comprehensive funding "portfolio" and the strategy you will to implement to make it a reality. We turn to this process in Chapter 5.

Sources: TBA